

ment with complaint of vaginal discharge. Four high vaginal swabs from posterior fornix of vagina were taken from each patient. One swab used for preparation of wet mount, one for making smear of giemsa and acridine orange staining and other for OSOM trichomonas rapid test and culture done on kupferberg culture medium.

**Results:** Out of 405 patient of vaginal discharge included in the study, Wet mount and giemsa staining showed *T. vaginalis* in 7 (1.7%) cases each. Acridine orange staining was positive in 12 cases (3.0%), while OSOM rapid test detected vaginalis infection in 15 cases. Culture on kupferberg medium was positive in 18 (4.4%) patient, sensitivity; specificity of wet mount examination was found to be 38.9%, 100%, positive and negative predictive values, 100% and 97.2%. Giemsa and acridine orange staining showed sensitivity of 38.9% and 66.67% and specificity 100% each. OSOM rapid test was found to be most sensitive when compared to wet mount examination and staining techniques taking culture on kupferberg medium as gold standard, while staining methods and OSOM test were found to be equally specific.

**Conclusion:** OSOM rapid test can be used as adjunct to microscopy and culture. Its high sensitivity and specificity advocates its use in settings where culture is not possible as direct microscopic examination and different staining techniques fails to detect infection in large number of cases.

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#### ***Giardia intestinalis*: DNA extraction approaches to improve PCR results**

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**Background:** Difficulty in disrupting cysts of *Giardia intestinalis*, a cosmopolitan protozoan parasite, decreases the yield of DNA extracted and reduces the effectiveness of the polymerase chain reaction (PCR). To improve the detection of the *Giardia* Glutamate Dehydrogenase (*gdh*) gene, we re-evaluated the effects of deoxyribonucleic acid (DNA) extraction methods.

**Methods:** The *Giardia* cysts were concentrated from 33 positive fecal samples in a sucrose gradient with a specific gravity of 0.85 M and then washed with distilled water. DNA extraction was carried out by one of two methods, the QIAamp Stool Mini Kit (QIAGEN, Germany) or the conventional phenol/chloroform/isoamyl alcohol (PCI) method. For pretreatment, the *Giardia* cyst walls were disrupted by glass beads, freeze-thaw cycles, or combinations of these methods, and DNA extraction was performed by one of two methods. Amplification of the *gdh* gene was performed as a single PCR.

ventional PCI extraction method or the QIAamp DNA Stool Mini Kit. After pretreatment of the cysts with glass beads and freeze/thaw cycles, the target gene was amplified in all 33 extracted DNA samples. The 458 bp fragment of *gdh* gene was amplified in nine samples using PCI (31.0%), and in the 24 remaining extracted DNA samples with the QIAamp DNA Stool Mini Kit.

**Conclusion:** Consequently, the pretreatment of cysts with glass beads and freeze/thaw cycles followed by extraction of DNA with the QIAamp Stool Mini kit was the more effective protocol.

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#### **Can cystic Echinococcosis trigger autoimmunity?**

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**Background:** Cystic echinococcosis (CE) is a zoonosis and disseminated disease in worldwide. Little is known about parasitic molecules that behave like immunomodulatory antigens and the mechanisms that they use to evade the host's immune response. Some authors suggested that immunomodulatory antigens of *Echinococcus granulosus* can directly inhibit the basic immune cell functions and stimulate the immune molecules for the development of CE. We aimed to evaluate the role of parasitic molecules of *E. granulosus* and also evaluate the link between immunomodulatory effects of these molecules and autoimmunity etiopathogenesis of the host by serology.

**Methods:** Twenty-eight non-operated patients with hydatid cysts (NOP) and 88 operated patients with hydatid cysts (OP) were included as study group and 54 healthy individuals with no known chronic diseases were included as control group. The presence of ANA (Anti nuclear antibody), ASMA (Anti Smooth Muscle Antibody) and AMA/LKM (Anti Mitochondrial Antibody / Liver Kidney Microsomal Antibody) antibodies which were known as autoimmune parameters were investigated for all groups by using Euroimmune indirect fluorescent antibody (IFA) kits (Euroimmune Labor Diagnostica, Germany). The ages of patients were between 16- 83 years and patient and control groups were matched for age and gender. Patients with positivity in at least one out of three tests were considered positive for autoimmunity.

**Results:** The antibodies were detected in 16(57.1%), 32(36.3%) and 12(23%) of NOP, OP and control groups, respectively. It was detected a statistically higher significant difference between NOP and healthy controls ( $p < 0.01$ ). No difference was detected between OP and healthy con-

trols ( $p > 0.05$ ). No statistically significant difference were detected between OP and control groups, but we detected a moderately higher positivity in results of OP. It was detected a significant difference between all patient groups (patients with NOP and OP) and control group ( $p < 0.05$ ).

**Conclusion:** As a result, detection of high autoantibodies in NOP regarding to our results suggested us, these chronic long-lasting disease process together with their immunoregulatory molecules may activate unknown autoimmune mechanisms of the host and lead to formation of autoimmunity. We also suggest that the decrease of autoantibodies in OP may be caused by the absence of antigenic stimulus originated from hydatid cysts.

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**Prevalence of intestinal parasitoses and factors related in the population infant of the community Santa Bárbara, Municipality Valley Guanape, State Anzoategui, Bolivarian Republic of Venezuela**

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**Background:** Intestinal parasitism affects mainly the infant population, on a worldwide scale; it is assessed that contributes the greatest number of infected among more than 1000000 of people who every year is declared. The objective was to determine the prevalence of intestinal parasitism in the infant population of the community Santa Barbara and to identify some risk factors.

**Methods:** A prevalence study was conducted. Universe: infant population from 0 to 14 years, including a total of 172. The collection of the primary datum was carried out under the total consent of the parents, who were interviewed, and some general data and of epidemiological interest was also gathered. Two stool samples were in addition collected by spontaneous defecation to each child. This study was conducted during the months from February to August 2008. For the analysis of association among the variables there were used the tests of comparison of proportions, and of X<sup>2</sup>, being considered a level of statistical significance when  $p$  value was equal or less than 0.05. In order to establish the strength of association among some variables, the Reason of Prevalence was used, there was taken into account the 95% confidence interval (CI).

**Results:** A total of 89 children were parasitized, for a prevalence of 51.7%, being the ages of 5-9 most affected (52.8%), as well as the male sex (56.1%). The risk factors associated with the intestinal parasite infection were water consumption without boiling, PR=2.91 [1.8–4.4], not having in-house WC, (PR=3.8 [1.61–6.31], the utilization of the collective well as source of water supply (RP=1.80 [1.1–3.1] and the use of feeding-bottle, (PR=3.85 [1.8–8.1]. The symptom that most frequently we found was the abdominal pain (43.8%), the parasite that predominated was *Giardia lamblia* followed by *Entamoeba histolytica*.

**Conclusion:** The prevalence of intestinal parasitism in the infant population of the community studied was high, being corroborated a narrow relationship between the presence

of parasites and some risk factors that predisposed to the intestinal parasitism.

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**Efficacy and safety of ivermectin versus high dose albendazole for chronic strongyloidiasis in immunocompromised patients**

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**Background:** Ivermectin and albendazole are effective against strongyloidiasis. However the efficacy and the most effective dosing regimen in immunocompromised patients are to be determined.

**Methods:** A prospective randomized open study compared a 7-day course of oral albendazole 800 mg daily with a single dose (200 mg/kg), or two single doses given 2 weeks apart of ivermectin in Thai patients with chronic strongyloidiasis. The primary end points were relief of symptoms (if present) and clearance of *Strongyloides* larvae from faeces after treatment and at one year follow up.

**Results:** 90 patients were included in the analysis (30, 31, and 29 patients in albendazole, single dose, and two-single doses ivermectin group respectively). Only 3 patients in this study did not have any underlying diseases. Diabetes mellitus, SLE, nephrotic syndrome, hematologic malignancy, solid tumor, and HIV infection were common underlying diseases these patients. The median (range) duration of follow up were 15 (2–62) weeks in albendazole group, 30 (2–59) weeks in single dose ivermectin group, and 24 (2–61) weeks in two single doses ivermectin group. Cure rates were 76.7%, 96.8% and 100% in albendazole, single dose oral ivermectin, and two single dose oral ivermectin respectively ( $P=0.003$ ) in perprotocol analysis. No serious adverse event associated with treatment was found in all groups.

**Conclusion:** This study confirms the superiority of ivermectin compared to high dose of albendazole for the treatment of chronic strongyloidiasis in immunocompromised patients. A single oral dose was as effective as two single oral doses of ivermectin.

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**Biochemical and immunological characterization of the EhCBP30 protein from *Entamoeba histolytica***

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**Background:** *Entamoeba histolytica*, is the causative agent of the amoebiasis. The infection is asymptomatic, but only a few people develop complications such as amebic liver abscess. During this event, *E. histolytica* trophozoites